

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### Checkerboard Ltd

#### Massachusetts Manufacturing Extension Partnership

#### Lean Was 'In the Cards' for Checkerboard Ltd.

##### Client Profile:

Checkerboard Ltd., established in 1990, designs and manufactures custom invitations, announcements, stationery and note cards for both the personal and business market. The family-owned business employs 154 people at its facility in West Boylston, Massachusetts.

##### Situation:

To separate themselves from the mass produced products of overseas competitors, Checkerboard had chosen to make high end custom orders and innovative design their niche, while continuing to focus on delivery and customer satisfaction. In order to accommodate continuous growth, seasonal spikes in business, and remain competitive, they needed to increase production speed and improve quality.

In Prepress (which includes customer service, billing and typesetting), they receive customer calls and send information to billing to create the orders and then handle the typesetting. Orders were released in random batches which created problems with pace and flow on the production floor. Traditionally, it took up to two days to get an order through this area and into production which was not acceptable if they were to sustain their 3-day delivery goal. Checkerboard updates their catalogs regularly for distribution to the retailers who sell their products. Each card design in its finished state, complete with enclosure cards and envelopes, is glued into a catalog so it can be seen and touched by potential customers. It took about seven months to complete a 60-page catalog due to material and layout issues, excess people, and material motion. During the manufacturing process, the card stock is cut and printed, handwork is added, and envelopes lined before completed orders are packaged for shipping. There are nine presses and subsequently nine jobs could be running at the same time with different designs, inks and quantities. Preparation work and changeovers required lots of time between shifts or orders. The large variety of products and volume of work also presented staffing and work flow issues during seasonal peaks making it more likely for the product to be damaged/Checkerboard's President, Mkan Chase, chose the Massachusetts Manufacturing Extension Partnership (Mass MEP), a NIST MEP network affiliate, to help the company learn how to operate more efficiently.

##### Solution:

Mass MEP's Lead Project Manager, James Gusha, assisted Checkerboard in applying for WTF (Workforce Training Fund) grants. Mass MEP worked with Checkerboard to teach them about the tools and methodologies of Lean manufacturing. Each Checkerboard team member received a basic overview of Lean by participating in Time Wise LE101 training. Then employee teams were formed to learn additional Lean techniques and spearhead work throughout different areas of the company. Value Stream Mapping (VSM) helped determine areas of waste and inefficiency in manufacturing, new product development/converting, catalog and order processing/customer service. Kaizen events were held to help focus on flow in all the value streams and on any areas of waste. Work included 5s to

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clean and organize the stock room and other locations throughout the business, the formation of work cells and implementation of more visual signals and tools. In new product development, a process was introduced to improve information management and eliminated excessive waiting time from initial design thru converting. The catalog making process was improved by introducing visual signals, reducing batch size and creating better flow. Prepress Customer service/billing/typesetting, saw increased efficiency and speed through the formation of work cells with teams of cross trained members. These agile teams can meet customer demands and the three-day delivery goal. Batching was eliminated by using standardized work, first in first out (FIFO) and more visual cues. The work cells have improved communication between employees and with clients.

#### **Results:**

- \* Increased sales by 30 percent.
- \* Reduced delivery time for proofs from 1 to days to 2 hours.
- \* Reduced travel time from 1553 feet per page to 82 feet per page.
- \* Increased on-time delivery by 100 percent.
- \* Created 50 new jobs.
- \* Increased employee satisfaction.
- \* Achieved a more competitive and profitable position.

#### **Testimonial:**

"Checkerboard could not have picked a better partner than Mass MEP. A huge part of our success was their willingness to work with us and to keep coming back to help. This helped us work through any potential issues as they came up. I recommend Mass MEP all the time!"

Micah Chase, President